What is claimed is:

1. A system for injecting catalyst and/or additives into a fluidized catalytic cracking unit, comprising:

a dust collector in fluid communication with at least one storage bin holding one of the catalyst and/or additives;

a vacuum producer in fluid communication with the dust collector so that the vacuum producer generates a vacuum within the dust collector that draws the one of the catalyst and/or additives into the dust collector; and

a transfer pot in fluid communication with the dust collector for receiving the one of the catalyst and/or additives from the dust collector, the transfer pot being in fluid communication with the fluidized catalytic cracking unit and a source of pressurized air so that the one of the catalyst and/or additives is transferred to the fluidized catalytic cracking unit in response to a pressure differential between the transfer pot and the fluidized catalytic cracking unit.

2. The system of claim 1, further comprising a hose coupled to the dust collector and the storage bin so that the dust collector and the storage bin are in fluid communication by way of the hose.

3. The system of claim 2, further comprising a first valve coupled to the hose for isolating the dust collector from the storage bin on a selective basis.

4. The system of claim 1, wherein the dust collector comprises a filter in fluid communication with the vacuum producer so that the filter collects dust from within the dust collector.

5. The system of claim 1, further comprising a volume chamber and moisture trap for drying air supplied by the source of pressurized air.

6. The system of claim 1, further comprising a plurality of load cells for measuring a weight of the dust collector, the transfer pot, and the one of the catalyst and/or additives drawn into the dust collector.

7. The system of claim 6, further comprising a cabinet for housing the dust collector and the transfer pot, wherein the dust collector and the transfer pot are mounted on a plurality of legs, each of the legs is secured to a common plate, the plate is mounted on the load cells, and the load cells are mounted on a base of the cabinet.

8. The system of claim 1, wherein:

the dust collector comprises a substantially cylindrical upper portion and an adjoining, substantially conical lower portion; and

the transfer pot comprises a substantially cylindrical upper portion adjoining the lower portion of the dust collector, and substantially conical lower portion adjoining the upper portion of the transfer pot.

9. The system of claim 8, wherein the lower portion of the dust collector has an opening formed therein for permitting the one of the catalyst and/or additives to flow from the dust collector to the transfer pot.

10. The system of claim 9, further comprising a valve for covering the opening on a selective basis, the valve having a plug movable between an upper and a lower position in response to impingement of the pressurized air thereon.

11. The system of claim 8, wherein the lower portion of the transfer pot has an opening formed therein for permitting the one of the catalyst and/or additives to flow from the transfer pot to the fluidized catalytic cracking unit.

12. The system of claim 6, where the vacuum producer is in fluid communication with the source of pressurized air, and the system further comprises:

a first valve for isolating the vacuum producer from the source of pressurized air on a selective basis;

a second valve for isolating the transfer pot from the source of pressurized air on a selective basis;

a third valve for isolating the transfer pot from the fluidized catalytic cracking unit on a selective basis;

a fourth valve for isolating the dust collector from the storage bin on a selective basis; and

a controller electrically coupled to the load cells and respective actuators of the first, second, third, and fourth valves for controlling the operation of the first, second, third, and fourth valves.

13. The system of claim 12, wherein the controller:

generates a first control input to cause the first valve to open;

generates a second and a third control input that cause the respective first and the fourth valves to close after a predetermined amount of the one of the catalyst and/or additives has been drawn into the dust collector;

generates a fourth control input that causes the second valve to open to pressurize the transfer pot;

generates a fifth control input that causes the second valve to close after a pressure differential between the transfer pot and a regenerator of the fluidized catalytic cracking unit reaches a predetermined value; and

generates a fifth control input that causes the third valve to open.

14. The system of claim 2, further comprising:

another of the hoses coupled to the dust collector and another of the storage bins so that the dust collector and the another of the storage bins are in fluid communication by way of the another of the hoses; and

a manifold coupled in fluid communication with the dust collector and the hoses for placing the hoses in fluid communication with the dust collector on a selective basis.

15. The system of claim 1, wherein the dust collector and the transfer pot each comprise a respective sidewall.

16. The system of claim 1, wherein the at least one storage bin and the dust collector are non-adjoining.

17. The system of claim 1, wherein the dust collector adjoins the transfer pot.

18. A system for storing and loading catalyst and/or additives into a fluidized catalytic cracking unit, comprising a storage bin for storing at least one of the catalyst and/or additives at a first location, and a loading unit positioned in a second location

remote from the first location, the loading unit being in fluid communication with the storage bin and the fluidized catalytic cracking unit on a selective basis, wherein the loading unit is capable of being evacuated so that a resulting vacuum within the loading unit draws the at least one of the catalyst and/or additives from the storage bin, and the loading unit is capable of being pressurized so that the least one of the catalyst and/or additives is transferred from the loading unit to the fluidized catalytic cracking unit.

19. The system of claim 18, wherein the loading unit comprises a dust collector and a transfer pot.

20. The system of claim 18, further comprising a vacuum producer for evacuating the loading unit.

21. The system of claim 20, wherein the dust collector comprises a filter in fluid communication with the vacuum producer for collecting dust generated by transfer of the at least one of the catalyst and/or additives from the storage bin to the dust collector.

22. The system of claim 18, further comprising a plurality of load cells for measuring a weight of the loading unit and the one of the catalyst and/or additives in the loading unit.

23. The system of claim 18, further comprising a cabinet for housing the loading unit, wherein the loading unit is mounted on a plurality of legs, each of the legs is secured to a common plate, the plate is mounted on the load cells, and the load cells are mounted on a base of the cabinet.

24. The system of claim 19, wherein:

the dust collector comprises a substantially cylindrical upper portion and an adjoining, substantially conical lower portion; and

the transfer pot comprises a substantially cylindrical upper portion adjoining the lower portion of the dust collector, and substantially conical lower portion adjoining the upper portion of the transfer pot.

25. The system of claim 24, wherein the lower portion of the dust collector has an opening formed therein for permitting the one of the catalyst and/or additives to flow

from the dust collector to the transfer pot as the at least one of the catalyst and/or additives is drawn into the dust collector from the storage bin, and the system further comprises a valve for covering the opening on a selective basis, the valve having a plug movable between an upper and a lower position in response to impingement of pressurized air thereon.

26. The system of claim 24, wherein the lower portion of the transfer pot has an opening formed therein for permitting the one of the catalyst and/or additives to flow from the transfer pot to the fluidized catalytic cracking unit.

27. The system of claim 19, wherein the dust collector and the transfer pot each comprise a respective sidewall.

28. The system of claim 18, wherein the second location is located no more than approximately twenty feet from the first location.

29. The system of claim 18, wherein the system comprise at least two of the storage bins.

30. The system of claim 29, wherein the loading unit further comprises a manifold for placing the loading unit in fluid communication with the at least two of the storage bins on a selective basis.

31. The system of claim 19, wherein the dust collector adjoins the transfer pot.

32. A system for loading catalyst and/or additives into a fluidized catalytic cracking unit, comprising:

a first bin for storing a first of the catalyst and/or additives;

a second bin for storing a second of the catalyst and/or additives;

a loading unit in fluid communication with the first and second bins and the fluidized catalytic cracking unit;

a first valve for isolating the first bin from the loading unit on a selective basis;

a second valve for isolating the second bin from the loading unit on a selective basis; and

a third valve for isolating the loading unit from the fluidized catalytic cracking unit on a selective basis.

33. The system of claim 32, further comprising a manifold comprising the first and second valves.

34. The system of claim 32, wherein the loading unit is capable of maintaining a vacuum therein so that the first and second of the catalyst and/or additives can be drawn into the loading unit from the respective first and second bins by the vacuum, and the loading unit is capable of being pressurized so that the first and second of the catalyst and/or additives can be injected into the fluidized catalytic cracking unit in response to pressurization of the loading unit.

35. The system of claim 32, further comprising first and second hoses for coupling the respective first and second bins to the loading unit.

36. The system of claim 34, wherein the loading unit comprises a dust collector and a transfer pot.

37. The system of claim 36, wherein the dust collector is capable of maintaining a vacuum therein so that the first and second of the catalyst and/or additives can be drawn into the dust collector from the respective first and second bins by the vacuum, and the transfer pot is capable of being pressurized so that the first and second of the catalyst and/or additives can be injected into the fluidized catalytic cracking unit in response to pressurization of the transfer pot.

38. The system of claim 34, further comprising a vacuum producer for generating the vacuum within the loading unit.

39. The system of claim 36, wherein the dust collector comprises a filter for collecting dust generated by transfer of the at least one of the catalyst and/or additives from the respective first and second bins and into the loading unit.

40. The system of claim 34, further comprising a volume chamber and moisture trap for drying air used to pressurize the loading unit.

41. The system of claim 32, further comprising a controller, the controller being electrically coupled to respective actuators of the first, second, and third valves so that the controller can open and close the first, second, and third valves.

42. The system of claim 36, wherein:

the dust collector comprises a substantially cylindrical upper portion and an adjoining, substantially conical lower portion; and

the transfer pot comprises a substantially cylindrical upper portion adjoining the lower portion of the dust collector, and substantially conical lower portion adjoining the upper portion of the transfer pot.

43. The system of claim 36, wherein the transfer pot and the dust collector each comprise a respective sidewall.

44. The system of claim 32, wherein the first bin and the loading unit are non-adjoining, and the second bin and the loading unit are non-adjoining.

45. The system of claim 36, wherein the dust collector adjoins the transfer pot.

46. A system for introducing catalyst and/or additives into a fluidized catalytic cracking unit, comprising:

dust collecting means in fluid communication with a storage bin holding one of the catalyst and/or additives;

vacuum producing means in fluid communication with the dust collecting means so that the vacuum producing means draws the one of the catalyst and/or additives into the dust collecting means; and

means for receiving the one of the catalyst and/or additives from the dust collecting means and injecting the one of the catalyst and/or additives into the fluidized catalytic cracking unit.

47. A process for introducing catalyst and/or additives into a fluidized catalytic cracking unit, comprising:

generating a vacuum within a loading unit;

drawing one of the catalyst and/or additives from a storage bin and into the loading unit in response to the vacuum;

pressurizing the loading unit; and

injecting the one of the catalyst and/or additives into the fluidized catalytic cracking unit in response to the pressurization of the loading unit.

48. The process of claim 47, further comprising monitoring a weight of the one of the catalyst and/or additives drawn into the loading unit and stopping generation of the vacuum when the weight reaches a predetermined value.

49. The process of claim 47, wherein generating a vacuum within a unit comprises initiating a flow of pressurized air through a vacuum producer in fluid communication with the loading unit.

50. The process of claim 47, wherein injecting the one of the catalyst and/or additives into the fluidized catalytic cracking unit in response to the pressurization of the loading unit comprises injecting the one of the catalyst and/or additive into a regenerator of the fluidized catalytic cracking unit.

51. The process of claim 47, wherein drawing one of the catalyst and/or additives from a storage bin and into the loading unit in response to the vacuum comprises opening a valve to place the storage bin in fluid communication with the loading unit.

52. The process of claim 51, further comprising drawing another of the catalyst and/or additives from another of the storage bins and into the loading unit in response to the vacuum by opening another of the valves to place the another of the storage bins in fluid communication with the loading unit.

53. The process of claim 47, wherein pressurizing the loading unit comprises opening a valve to place the loading unit in fluid communication with a source of pressurized air.

54. The process of claim 47, wherein generating a vacuum within a unit and drawing one of the catalyst and/or additives from a storage bin and into the loading unit in response to the vacuum comprises generating the vacuum in a dust collector of the loading

unit and drawing one of the catalyst and/or additives from a storage bin and into the dust collector in response to the vacuum.

55. The process of claim 47, wherein pressurizing the loading unit and injecting the one of the catalyst and/or additives into the fluidized catalytic cracking unit in response to the pressurization of the loading unit comprises pressurizing a transfer pot of the loading unit and injecting the one of the catalyst and/or additives into the fluidized catalytic cracking unit from the transfer pot.

56. A process for loading catalyst and/or additives into a fluidized catalytic cracking unit, comprising:

storing at least one of the catalyst and/or additives at a first location;

vacuuming the at least one of the catalyst and/or additives into a unit positioned at a second location; and

injecting the at least one of a catalyst and/or additives into the fluidized catalytic cracking unit from the loading unit.

57. A system for introducing one or more particulate substances into a fluid stream, comprising:

dust collecting means in fluid communication with at least one storage bin holding the one or more particulate substances;

vacuum producing means in fluid communication with the dust collecting means so that the one or more particulate substances is drawn into the dust collecting means from the at least one storage bin by a vacuum; and

means for receiving the one or more particulate substances from the dust collecting means and injecting the one or more particulate substances into the fluid stream.

58. The system of claim 1, further comprising a first pipe guide in fluid communication with a first storage bin, and a second pipe guide in fluid communication with a second storage bin, wherein a first end of the first pipe guide and a first end of the second pipe guide are each secured to a sidewall of the dust collector.

59. The system of claim 58, wherein a second end of the first pipe guide is secured to a second end of the second pipe guide.

60. The system of claim 59, wherein the second end of the first pipe guide is secured to the second end of the second pipe guide within the dust collector, and the first and second pipe guides discharge the catalyst and/or additive at a location proximate a centerline of the dust collector.

61. The system of claim 59, further comprising a third pipe guide in fluid communication with a third storage bin, and a fourth pipe guide in fluid communication with a fourth storage bin, wherein a first end of the third pipe guide and a first end of the fourth pipe guide are each secured to the sidewall of the dust collector, a second end of the third pipe guide is secured to the second end of the second pipe guide, and a second end of the fourth pipe guide is secured to the second end of the third pipe guide.

62. The system of claim 58, further comprising a first valve mounted on the first pipe guide for placing the dust collector in fluid communication with the first storage bin on a selective basis, and a second valve mounted on the second pipe guide for placing the dust collector in fluid communication with the second storage bin on a selective basis.

63. The system of claim 58, further comprising a manifold, the manifold being secured to a second end of the first pipe guide and a second end of the second pipe guide so that the manifold is located within the dust collector.

64. The system of claim 63, wherein the manifold comprises a first valve in fluid communication with the first storage bin for placing the dust collector in fluid communication with the first storage bin on a selective basis, and a second valve in fluid communication with the second storage bin for placing the dust collector in fluid communication with the second storage bin on a selective basis.

65. The system of claim 63, wherein the manifold further comprises a discharge pipe guide for discharging the catalyst and/or additives from the manifold and into an interior volume of the dust collector.

66. The system of claim 65, further comprising a third pipe guide in fluid communication with a third storage bin, and a fourth pipe guide in fluid communication with a fourth storage bin, wherein a first end of the third pipe guide and a first end of the fourth pipe guide are each secured to the sidewall of the dust collector so that the third and

fourth pipe guides extend into the dust collector, and the manifold is further secured to a second end of the third pipe guide and a second end of the fourth pipe guide.

67. The system of claim 65, wherein the discharge pipe guide discharges the catalyst and/or additives at a location proximate a centerline of the dust collector.

68. A conveying process, comprising:

generating a vacuum within a dust collector of a loading unit;

drawing a particulate material from a storage bin and into the dust collector in response to the vacuum so that the particulate material enters a transfer pot of the loading unit adjoining the dust collector;

pressurizing the transfer pot; and

discharging the particulate material from the transfer pot in response to the pressurization of the transfer pot.

69. The process of claim 68, further comprising:

drawing a second particulate material from a second storage bin and into the dust collector in response to the vacuum so that the second particulate material enters the transfer pot;

re-pressurizing the transfer pot; and

discharging the second particulate material from the transfer pot in response to the re-pressurization of the transfer pot.

70. The process of claim 68, wherein the particulate material is selected from a group consisting of a hygroscopic material, a pyrophoric material, a catalyst, and an additive.

71. The system of claim 7, wherein the cabinet is adapted to function as a shipping container for the system.

72. The system of claim 23, wherein the cabinet is adapted to function as a shipping container for the system.

73. The system of claim 30, further comprising a first pipe guide in fluid communication with a first of the storage bins, and a second pipe guide in fluid

communication with a second of the storage bins, wherein a first end of the first pipe guide and a first end of the second pipe guide are each secured to a sidewall of the loading unit.

74. The system of claim 73, wherein a second end of the first pipe guide is secured to a second end of the second pipe guide.

75. The system of claim 74, wherein the second end of the first pipe guide is secured to the second end of the second pipe guide within the loading unit, and the first and second pipe guides discharge the catalyst and/or additive at a location proximate a centerline of the loading unit.

76. The system of claim 74, further comprising a third pipe guide in fluid communication with a third storage bin, and a fourth pipe guide in fluid communication with a fourth storage bin, wherein a first end of the third pipe guide and a first end of the fourth pipe guide are each secured to the sidewall of the loading unit, a second end of the third pipe guide is secured to the second end of the second pipe guide, and a second end of the fourth pipe guide is secured to the second end of the third pipe guide.

77. The system of claim 73, further comprising a manifold, the manifold being secured to a second end of the first pipe guide and a second end of the second pipe guide so that the manifold is located within the loading unit.

78. The system of claim 77, wherein the manifold comprises a first valve in fluid communication with the first storage bin for placing the dust collector in fluid communication with the first storage bin on a selective basis, and a second valve in fluid communication with the second storage bin for placing the dust collector in fluid communication with the second storage bin on a selective basis.

79. The system of claim 77, wherein the manifold further comprises a discharge pipe guide for discharging the catalyst and/or additives from the manifold and into an interior volume of the dust collector at a location proximate a centerline of the dust collector.

80. The system of claim 32, further comprising a first pipe guide in fluid communication with the first bin, and a second pipe guide in fluid communication with the

second bin, wherein a first end of the first pipe guide and a first end of the second pipe guide are each secured to a sidewall of the loading unit.

81. The system of claim 80, wherein a second end of the first pipe guide is secured to a second end of the second pipe guide.

82. The system of claim 81, wherein the second end of the first pipe guide is secured to the second end of the second pipe guide within the loading unit, and the first and second pipe guides discharge the catalyst and/or additive at a location proximate a centerline of the loading unit.

83. The system of claim 81, further comprising a third pipe guide in fluid communication with a third storage bin, and a fourth pipe guide in fluid communication with a fourth storage bin, wherein a first end of the third pipe guide and a first end of the fourth pipe guide are each secured to the sidewall of the loading unit, a second end of the third pipe guide is secured to the second end of the second pipe guide, and a second end of the fourth pipe guide is secured to the second end of the third pipe guide.

84. The system of claim 80, further comprising a manifold, the manifold being secured to a second end of the first pipe guide and a second end of the second pipe guide so that the manifold is located within the loading unit.

85. The system of claim 84, wherein the manifold further comprises a discharge pipe guide for discharging the catalyst and/or additives from the manifold and into an interior volume of the dust collector at a location proximate a centerline of the dust collector.